

IMPLEMENTATION SCHEDULE

The Implementation Schedule that follows describes recovery task priorities, task numbers, task descriptions, duration of tasks, potential or participating responsible parties, total cost estimate and estimates for the next 5 years, if available, and comments. These tasks, when accomplished, will lead to recovery of bull trout in the Grande Ronde River Recovery Unit. The estimated time to recovery is 25 to 50 years and the total estimated cost is \$17 million.

Parties with authority, responsibility, or expressed interest to implement a specific recovery task are identified in the Implementation Schedule. Where federally or privately operated facilities have been included as a part of potential recovery tasks, potentially impacted entities have been identified as the lead or co-lead in assessing the feasibility of the proposed action. Lead parties are designated in **bold** type. Listing a responsible party does not imply that prior approval has been given or require that a party participate or expend any funds. However, willing participants will benefit by demonstrating that their budget submission or funding request is for a recovery task identified in an approved recovery plan, and is therefore part of a coordinated recovery effort to recover bull trout.

Following are definitions to column headings and keys to abbreviations and acronyms used in the implementation schedule:

Priority Number: All priority 1 tasks are listed first, followed by priority 2 and priority 3 tasks.

Priority 1: All actions that must be taken to prevent extinction or to prevent the species from declining irreversibly in the foreseeable future.

Priority 2: All actions that must be taken to prevent a significant decline in species population, habitat quality, or some other significant negative effect short of extinction.

Priority 3: All other actions necessary to provide for full recovery (or reclassification) of the species.

Task Number and Task Description: Recovery tasks as numbered in the recovery tasks narrative. Refer to the action narrative for task descriptions.

Task Duration: Expected number of years to complete the corresponding task. Study designs can incorporate more than one task, which when combined can reduce the time needed for task completion.

Responsible or Participating Party: The following organizations are those with the responsibility or capability to fund, authorize, or carry out the corresponding recovery task. Lead agencies are indicated in bold type. Additional identified agencies or parties are considered cooperators in restoration efforts. Identified parties include:

BCC	Boise Cascade Corporation
BLM	Bureau of Land Management
BPA	Bonneville Power Administration
BOR	Bureau of Reclamation
CTUIR	Confederated Tribes of the Umatilla Indian Reservation
EPA	Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
GRMWP	Grande Ronde Model Watershed Program
NMFS	National Marine Fisheries Service
NPPC	Northwest Power Planning Council
NPT	Nez Perce Tribe
ODEQ	Oregon Department of Environmental Quality
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
OSP	Oregon State Police
USFWS	U.S. Fish and Wildlife Service
WDFW	Washington Department of Fish and Wildlife
USACE	U.S. Army Corp of Engineers

USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WDFW	Washington Department of Fish and Wildlife

Cost Estimates: Cost estimates are rough estimates and are only provided for general guidance. Total costs are estimated for both the duration of the task, are itemized annually for the next 5 years, and include estimates of expenditures by local, Tribal, State, and Federal governments and by private business and individuals.

An asterisk (*) in the total cost column indicates ongoing tasks that are currently being implemented as part of normal agency responsibilities under existing authorities. Because these tasks are not being done specifically or solely for bull trout conservation, they are not included in the cost estimates. Some of these efforts may be occurring at reduced funding levels and/or in only a small portion of the watershed.

Double asterisk (**) in the total cost column indicates that estimated costs for these tasks are not determinable at this time. Input is requested to help develop reasonable cost estimates for these tasks.

Triple asterisk (***) indicates costs are combined with or embedded within other related tasks.

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Priority number	Task number	Task description	Task duration (years)	Responsible parties (Alphabetical)	Cost estimates (\$1,000)						Comments
					Total cost	Year 1	Year 2	Year 3	Year 4	Year 5	
1	1.2.1	Assess whether tributary diversions act as migration barriers and restore passage where necessary	2	ODFW, USFS, WDFW	100	50	50				Install appropriate fish passage structures around diversions or remove related migration barriers
1	1.2.5	Assess whether road and trail crossings are acting as barriers to bull trout movement and provide passage wherever feasible	2	BCC, ODFW, ODOT, USFS, WDFW	200	100	100				Implement solutions to address those that impact bull trout
1	1.2.8	Monitor the effects of diversions and withdrawals on stream temperature and bull trout migration, and modify as necessary	3	ODFW, USFS, WDFW	450	150	150	150			Modify the management of diversions and withdrawals as necessary for bull trout
1	1.3.1	Restore riparian zones associated with bull trout habitat.	25	BCC, BLM, CTUIR, GRMWP, NPT, ODFW, USFS, WDFW	375	15	15	15	15	15	
1	1.3.2	Maintain riparian zones associated with bull trout habitat.	25	BCC, BLM, CTUIR, GRMWP, NPT, ODFW, USFS, WDFW	*						

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1	1.4.1	Evaluate the impacts of Lower Granite Dam and Hells Canyon Dam.	5	ODFW, USACE, USFS, USFWS , WDFW	1000	200	200	200	200	200	
1	1.4.2	Review reservoir operations at Federal Columbia River Power System facilities and revise as necessary	5	USACE, ODFW, USFWS , WDFW	250	50	50	50	50	50	Recommend-ations should be provided through the Federal Energy Regulatory Commission, State relicensing processes, and Federal consultations
1	3.1.1	Coordinate plans associated with fish management	25	BPA, CTUIR, ODFW, NPPC, NPT, USACE, USFS, USFWS , WDFW	250	10	10	10	10	10	
1	3.2.2	Enforce sport angling regulations	25	ODFW, OSP , WDFW	250	10	10	10	10	10	
1	3.2.3	Provide information to the public about low-impact angling	5	ODFW , WDFW	50	10	10	10	10	10	

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1	4.1.1	Document and monitor genetic baselines for each local population	3	ODFW, USFWS, WDFW	500	100	200	200			
1	4.2.1	Manage local populations (numbers and life forms) to maintain long-term viability	25	ODFW, WDFW	*						
1	5.1.1	Design and implement a standardized, statistically sound bull trout population monitoring program	25	BLM, ODFW, USFS, USFWS, WDFW	1950	150	75	75	75	75	
1	5.2.1	Conduct further sampling in the mainstem Indian Creek to identify lower distribution limits of spawning and rearing habitat	3	BCC, ODFW, USFS	45	15	15	15			
1	5.2.2	Evaluate habitat condition and bull trout use of the Grande Ronde valley	3	GRMWP, ODFW	140	60	20	20	20	20	
1	5.2.5	Determine range of temperature tolerances for bull trout life stages in different habitats	5	ODFW, USFS, USFWS, WDFW	75	15	15	15	15	15	

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1	5.2.6	Determine the seasonal movement patterns of adult and subadult, migratory bull trout	5	ODFW, USACE, USFS, USFWS, WDFW	750	150	150	150	150	150	
1	5.5.1	Determine life history requirements	10	BPA, BOR, BLM, CTUIR, NPT, ODFW, USACE, USFS, USFWS, WDFW	1500	150	150	150	150	150	
1	5.5.3	Continue to survey for bull trout	25	BPA, CTUIR, NPT, ODFW, USFS, USFWS, WDFW	625	25	25	25	25	25	
1	5.6.1	Determine the mechanism by which migratory life forms undergo transition to resident forms	10	BPA, ODFW, USACE, USFS, USFWS, WDFW	500	50	50	50	50	50	

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1	5.6.2	Evaluate the relationship between life history forms	10	BPA, ODFW , USACE, USFS, USFWS , WDFW	500	50	50	50	50	50	
1	5.6.3	Determine the consequences of genetic fragmentation and isolation	10	BPA, ODFW , USACE, USFS, USFWS , WDFW	500	50	50	50	50	50	
1	5.6.4	Investigate use of the mainstem Snake River by bull trout from the Grande Ronde River subbasin	5	ODFW , USACE, USFWS , WDFW	750	150	150	150	150	150	
1	5.6.5	Evaluate the population structure of bull trout in the recovery unit	3	BPA, ODFW, USFS, USFWS , WDFW	500	100	200	200			
1	5.6.7	Evaluate survival rates (by life stage)	10	BPA, ODFW , USFS, USFWS , WDFW	1000	100	100	100	100	100	

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1	6.1.2	Provide long-term habitat protection	25	BCC, BLM, BOR, BPA, GRMWP, ODFW , USFS, USFWS, WDFW	500	25	25	25	25	25	This may be accomplished through purchase, conservation easements, management plans, and land exchanges
1	6.1.4	Provide educational information to the public about bull trout habitat needs	5	GRMWP , ODFW , WDFW	50	10	10	10	10	10	
2	1.1.1	Identify and reduce sources of excessive fine sediment delivery	3	BCC, BLM, BOR, ODFW , USFS, WDFW	45	15	15	15			Take corrective action if necessary and appropriate
2	1.1.2	Assess effects on bull trout from nonpoint source pollution	5	BCC, BLM, BOR, ODFW , ODOT, USFS, WDFW	75	15	15	15	15	15	Implement the water quality management plan for the Upper Grande Ronde, Wallowa and Lower Grande Ronde watersheds
2	1.2.2	Assess whether tributary diversions and irrigation ditches are screened appropriately and remediate where necessary	3	ODFW , USFS, WDFW	45	15	15	15			Take action based on assessment

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2	1.2.3	Evaluate, and where necessary reduce, impacts of hatchery weirs on bull trout	5	CTUIR, NPT, ODFW, USFWS	125	25	25	25	25	25	If significant impacts are found they should be addressed
2	1.3.3	Reduce grazing impacts	10	BLM, BOR, ODFW, USFS, WDFW	200	10	15	20	15	10	
2	1.3.5	Protect, maintain, and enhance anadromous fish habitat to increase available forage species for bull trout	25	ODFW, USFWS, USFS, WDFW	*						Ongoing
2	2.5.1	Assess the interactions between bull trout and introduced fishes	5	BPA, ODFW, USFWS, WDFW	125	25	25	25	25	25	If appropriate, design and implement programs to control or extirpate nonnative fishes
2	5.2.3	Assess habitat potential for expanding local populations	3	BPA, BCC, ODFW, USFS, USFWS, WDFW	450	15	15	15			

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2	5.3.1	Develop and evaluate basin management plans	4	BPA, CTUIR, NPPC, NPT, ODFW , USFS, USFWS, WDFW	100	25	25	25	25		
2	5.4.2	Maintain fish health screening and transplant protocols	25	ODFW , WDFW	*						
2	5.5.2	Investigate the relationship between bull trout and anadromous species	3	BPA, NMFS, ODFW , USFS, USFWS , WDFW	150	50	50	50			
2	5.5.4	Maintain a central database	25	ODFW	250	10	10	10	10	10	
2	5.5.5	Compare characteristics of weak and strong populations of bull trout	10	BPA, ODFW, USACE, USFS, USFWS , WDFW	250	25	25	25	25	25	

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2	5.6.6	Evaluate basic life history characteristics	10	BPA, ODFW, USACE, USFS, USFWS , WDFW	1000	100	100	100	100	100	
2	6.1.1	Support collaborative efforts by local watershed groups	25	ODFW , USFWS , WDFW	*						
3	1.2.4	Ensure that hatchery intakes are not impacting bull trout	2	CTUIR , NPT , ODFW , USFWS	30	15	15				Insure that intakes are screened properly
3	1.2.6	Salvage stranded bull trout	25	ODFW , WDFW	125	5	5	5	5	5	
3	1.2.7	Secure appropriate instream flows	10	ODFW , WDFW	125	5	5	5	5	5	
3	1.3.4	Assess the need for stream channel restoration activities and implement where necessary	3	ODFW , WDFW	30	10	10	10			Implement if necessary
3	1.4.3	Evaluate and reduce the impacts of tributary dams	5	ODFW , USFS	75	15	15	15	15	15	

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3	1.5.1	Assess current risk of catastrophic fire to bull trout populations and reduce where necessary	3	BCC, USFS	45	15	15	15			
3	2.2.1	Review efficacy of and compliance with fish stocking regulations	25	ODFW, OSP, WDFW	*						
3	2.6.1	Where necessary, implement management actions to reduce the distribution/abundance of nonnative species	28	ODFW, USFWS, USFS, WDFW	*						
3	3.1.2	Coordinate recovery efforts on bull trout, salmon, and steelhead	25	NMFS, USFWS	*						
3	3.2.1	Evaluate the impact of current sport angling regulations on bull trout	25	ODFW, WDFW	*						
3	4.3.1	Assess the potential for reestablishment of local populations in Wenatchee Creek and above the Wallowa Lake Dam	3	BPA, ODFW, USFWS, WDFW	45	15	15	15			
3	4.3.2	Reestablish bull trout in Wenatchee Creek and above the Wallowa Lake Dam if feasible	10	ODFW, WDFW	NA						Dependent on 4.3.2.

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3	5.1.2	Assess habitat restoration techniques	10	BLM, BOR, BPA, GRMWP, ODFW, USFS, WFDW	250	25	25	25	25	25	
3	5.2.4	Conduct watershed assessments	3	ODEQ	225	75	75	75			
3	5.2.7	Evaluate food web interactions	4	ODFW	300	100	100	100			
3	5.4.1	Research effects of whirling disease on bull trout	3	ODFW	150	50	50	50			Monitor for the presence of whirling disease in important areas
3	5.4.3	Provide educational opportunities to the public about whirling disease	5	ODFW	50	10	10	10	10	10	
3	5.4.4	Survey for whirling disease	3	ODFW	90	30	30	30			
3	5.4.5	Monitor for effects of fish pathogens on Oregon bull trout populations	25	ODFW	125	5	5	5	5	5	
3	6.1.3	Work cooperatively with neighboring states and governments to implement recovery actions	25	ALL	*						

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3	7.1.1	Develop a participation plan to support implementation in the recovery unit	25	USFWS	*						
3	7.3.1	Periodically assess progress and determine needs for changes in recovery unit plan	25	USFWS	*						
3	7.3.2	Periodically assess the priority of actions in the context of how to emphasize actions in core areas	25	USFWS	*						